

Title (en)

DAMPER DEVICE AND STEERING DEVICE

Title (de)

DÄMPFERVERRICHTUNG UND LENKVORRICHTUNG

Title (fr)

DISPOSITIF AMORTISSEUR ET DISPOSITIF DE DIRECTION

Publication

**EP 3159241 A1 20170426 (EN)**

Application

**EP 16195034 A 20161021**

Priority

JP 2015208062 A 20151022

Abstract (en)

In the damper device, when the large diameter portion (51) does not apply an impact force on the flange portion (532), the elastic body (53b, 63b, 73b) is disposed in one of the housing (22) and the cylindrical portion with a gap and when the large diameter portion applies the impact force on the flange portion, the elastic body is compressed by the restricting surface and the flange portion in an axial direction to be deformed into a state that the elastic body is brought into contact with all of the housing, the restricting surface (52b, 62b), the cylindrical portion (531) and the flange portion to be filled in the gap. The impact receiving member (53a) is restricted from a movement relative to the housing by the deformed elastic body when the end portion (531 c) of the cylindrical portion (531) is advanced into the relief portion (52f, 62f, 72f) and the impact receiving member keeps a non-contact state with the housing.

IPC 8 full level

**B62D 3/12** (2006.01)

CPC (source: CN EP US)

**B62D 3/12** (2013.01 - CN EP US); **B62D 7/163** (2013.01 - US); **B62D 7/228** (2013.01 - US); **F16F 1/3732** (2013.01 - EP US);  
**F16F 1/445** (2013.01 - EP US); **B62D 5/0421** (2013.01 - US); **B62D 5/0448** (2013.01 - US)

Citation (search report)

- [X] DE 102007000680 A1 20090514 - ZF LENKSYSTEME GMBH [DE]
- [X] WO 2005123484 A1 20051229 - NSK LTD [JP], et al
- [X] WO 2005028284 A1 20050331 - NSK LTD [JP], et al
- [A] EP 2881304 A1 20150610 - JTEKT CORP [JP] & JP 2015128981 A 20150716 - JTEKT CORP
- [A] WO 03029067 A1 20030410 - ZF LENKSYSTEME GMBH [DE], et al

Cited by

DE102017217633A1; US2023182804A1; US11904949B2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 3159241 A1 20170426**; **EP 3159241 B1 20180905**; CN 107031701 A 20170811; CN 107031701 B 20201127; JP 2017077874 A 20170427;  
JP 6534907 B2 20190626; US 2017113719 A1 20170427; US 9975574 B2 20180522

DOCDB simple family (application)

**EP 16195034 A 20161021**; CN 201610922099 A 20161021; JP 2015208062 A 20151022; US 201615331735 A 20161021